A troubled youth: Relations with somatization, depression and anxiety in adulthood

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Background. Childhood experiences profoundly affect later functioning as an adult. Family practitioners are well-placed to discover the links between childhood troubles and later somatization, depression or anxiety.

Objectives. We aimed to study the interrelation of somatization, depressive and anxiety disorders in frequently attending patients in general practice; to investigate whether these problems are related to a childhood history of illness experiences, deprivation, life events and abuse; and to determine the independent contributions of these childhood factors to the prediction of adult somatization, depressive and anxiety disorders.

Methods. One hundred and six adult general practice patients with high consultation frequency were studied. Somatization was operationalized as a more comprehensive version of DSM-III-R somatization disorder (5 complaints; SSI 5/5). For depression (ever depressive and/or dysthymic) and anxiety (panic, phobias and/or generalized anxiety) DSM-III-R criteria were used. Using a structured questionnaire we assessed illness experiences, deprivation of parental care, abuse (sexual/physical) and other life events before age 19.

Results. The overlap between somatization, depression and anxiety was largely accounted for by 16 patients with a triple problem: somatization and depression and anxiety. Somatization was specifically related to deprivation, depression to other life events. Abuse (prevalence 16%) independently predicted psychiatric problems in general. Youth experiences before age 12 were most important.

Conclusions. The high prevalence of triple problems suggests a need to reconsider concepts like somatic anxiety and anxious depression. The specificity of the relation between deprivation and somatization and of the relation between other life events and depression indicates that distinct causal mechanisms (in youth) contribute to these problems.

Keywords. Parental deprivation, child abuse, somatoform disorders, depressive disorders, anxiety disorders.

Introduction

Childhood experiences profoundly influence later functioning as an adult. This thesis was proposed nearly a century ago and is widely accepted in western societies. Scientific debate continues, though. Family medicine as a scientific discipline, however, is not an active participant in this debate. Child psychologists and educationalists concentrate on influence of ‘normal’ childhood experiences on personality and academic achievement. Psychiatrists analyse the childhood experiences of patients with psychiatric disorders within the mental health care system, and study the prognosis in severely troubled children. Severe trouble such as sexual abuse is, however, more frequent and less visible than formerly thought. Moreover, a high proportion of psychi-
atrionic morbidity is never seen within the mental health care system. General practitioners, on the other hand, often have long-lasting relationships with their patients, see them fairly regularly for many reasons, and see members of their families too. Within the health care system, therefore, the general practitioner is well placed to detect both trouble in youth and its possible consequences in adulthood.

Psychiatric knowledge about the long-term consequences of childhood trouble is fragmentary, for practical reasons. Prognosis in institutionalized children, or the childhood history of depressed adults who are referred is easier to study than the combined effects of several—possibly less severe—types of trouble in a primary care population. Somatization (as defined by Lipowski) is most important for the general practitioner because it is a field where he has more expertise than either medical specialists or psychiatrists. Depressive and anxiety disorders are important too because they are the most prevalent psychiatric disorders in general practice, are frequently not diagnosed as such, and probably have presenting symptoms different from those in referred patients (somatized anxiety, masked depression, for instance).

This article presents a survey of the relationship between several types of trouble in youth and somatization, depressive and anxiety disorders in adulthood. It was part of a larger study assessing the validity of the somatization concept in a risk group important for general practice: patients with recurrent or chronic abdominal, neck or back complaints and high consultation frequency.

Serious disease and prolonged pain in childhood are related to somatization in adulthood. Serious handicap through disease of a parent has been reported as a risk factor, too. This has been illustrated by Huysgen in his prospective analysis of case histories spanning generations. Katon emphasized the significance of subjective complaints: if children grow up in families where “care is provided for somatic ills, but not for emotional ills”, they may later somatize as a strategy to cope with depression and elicit nurturance.

Many studies have investigated parental separation and parental death as risk factors for later depression, most of them confirmative. Lack of care resulting from the loss of a parent or the emotional climate of a family as such may be more important than the loss itself, though. Loss or death of a parent is reported as a risk factor for panic disorder. Lack of parental care, too, has been implicated as a risk factor for somatization.

Traumatic life events in childhood are related to later depression and panic disorder. However, most life events in these studies were related to illness experiences or deprivation of parental care. Whether the stress of having to adapt to changes in situation as such has any influence remains to be established.

About 15% of adult women in the general population have been abused before the age of 16, and in psychiatric hospitals even more. Sexual abuse has been reported as a risk factor for somatization, for depression and for anxiety. Physical abuse is probably similar to sexual abuse in its consequences. The present study was therefore designed to answer the following questions: 1) What is the interrelation of somatization, depressive and anxiety disorders in patients who frequently present in general practice? 2) Are somatization, depressive and anxiety disorders and psychiatric problems in general) in adulthood related to a childhood history of illness experiences, deprivation, life events and abuse? 3) What is the independent contribution of illness experiences, deprivation, life events and abuse in childhood to the prediction of somatization, depressive and anxiety disorders?

Methods

Subjects

A study group of frequent attenders with a more or less comparable medical history of somatic complaints was selected in two steps. Potential candidates were selected in the Registration Network of Family Practices (RNH) database of the University of Limburg. Health problems are recorded as ICPC codes in the RNH if permanent, chronic or recurrent. Criteria were: history of back, neck or abdominal complaints, age 20-44 years, absence of active serious somatic diseases and no history of psychiatric disorders other than depression and anxiety. The participating general practitioners, using medical records, then selected on frequency of consultation, with a correction for obvious and serious somatic problems: at least 15 consultations without compelling somatic reason for encounter (“that would be a reason for consultation for any right-minded person”) in the previous three years. The general practitioners excluded a patient if they thought that participating would seriously harm the patient or their relationship with the patient. The general practitioners invited the selected patients to participate by letter. Patients who agreed were visited by a trained interviewer for further information about the study and data collection. The protocol for subject selection and recruitment has been described in detail elsewhere.

Instruments

For demographic data we used a standardized Dutch questionnaire. Somatization, depressive disorder, dysthymic disorder, panic disorder, agoraphobia, social phobia and other phobias were assessed with the relevant sections of the Diagnostic Interview Schedule (DIS). For generalized anxiety disorder (not included in the DIS)
we used a specially designed questionnaire in DIS format, and DSM-III-R criteria. Somatization was defined as a more comprehensive version of DSM-III-R somatization disorder, with a threshold of five complaints instead of 13.25,29,30 For other diagnoses DSM-III-R criteria were used.

In the absence of standardized questionnaires for retrospective evaluation of unfavourable youth experiences, we designed our own (see appendix). We concentrated on events that were easy to recall. Questions were phrased neutrally. If a patient had experienced abuse, specific follow-up questions were asked, as disclosure, though upsetting, may have a beneficial effect on the patient (and shrinking away from the subject may strengthen the taboo of abuse as something unmentionable).2 In these cases patients were also phoned the next day to provide an opportunity to express their feelings, as advised by Draijer.2 The questionnaire concerned the period up to and including age 18. It comprised four sections:

1. Illness experiences: subjective illness and disease of the patient, disease of family members (reliable recall of subjective illness of family members was thought impossible).
2. Deprivation: situations that indicated a lack of, or a high risk of a lack of, parental care during a lengthy period, or events resulting in such situations.
3. Life events: major disruptions of daily routine that forced the patient to adapt to a new situation (not necessarily negative events). As this scale overlapped considerably with other scales, results are also presented for other life events (overlapping items excluded).
4. Abuse: sexual abuse: any unwanted sexual experience before age 16, indecent assault thereafter. Gravity of sexual abuse was scored in an ordinal scale according to Draijer (p. 141);2 physical abuse: beating that was subjectively threatening or necessitated a visit to the doctor. It was coded as abuse only if the situation had been experienced as serious at the time.

Analysis
In bivariate analyses we stratified for gender; the Mantel-Haenszel Chi² test for linear trend was used for ordinal scales, the Mantel-Haenszel Chi² for dichotomous ones.

Youth experiences that in bivariate analyses were related to a dependent variable (somatization, depression or anxiety) were entered in logistic regression analysis to assess whether they were independent predictors of that dependent variable (forward stepwise, likelihood ratio probability-to-enter 0.10, probability-to-remove 0.20). We forced variables into the model in additional analyses to test our interpretation of results.

Significance levels for bivariate analyses are one-sided (except where indicated). In logistic regression analyses we present two-sided significance levels. For stratified analysis EPI INFO (dichotomous scales) and TRUE EPISTAT (ordinal scales) were used.31,32 All other analyses were done with SPSS–PC+ 4.0.

Results
Patient selection
The RNH database contained 1378 patients aged 20–44 years with back, neck or abdominal problems and without serious somatic or psychiatric problems. Of these, 185 had had at least 15 consultations without a compelling somatic reason for encounter in the previous 3 years. The general practitioners excluded 19 patients, 55 refused and five were excluded because of missing data, which left 106 patients for the analyses. Thirty of them had also participated in an earlier study.25

Sociodemographic variables
There were 41 men and 65 women. Median age was 37 years. Most patients were living with a partner (88%) and/or children (75%). Level of education was comparable to that of the population registered with the participating practices: 43 patients with at least intermediate vocational or general secondary education. About half of the patients (26 men, 28 women) had a paid job or studied, a quarter (1 man, 27 women) looked after the household, and the rest worked in a sheltered workshop (5), were on longterm sick leave (10), unemployed (4), or unclassifiable for work situation (5).

Somatization, depression and anxiety
Somatization (at least five complaints, start of first complaint before age 30) was present in 51 patients (48%, 18 men and 33 women). Four of them had the full DSM-III-R somatization disorder (at least 13 complaints). There were 39 patients (37%) with ‘depression’: 33 had a lifetime diagnosis of depressive disorder (five of whom were currently depressive) and six of dysthymic disorder. ‘Anxiety’ was diagnosed in 40 patients (38%): panic disorder (current or lifetime) 16 patients, agoraphobia 20, social phobia 8, other phobias 16 and generalized anxiety disorder 4.

Depression was related to both somatization (odds ratio 3.6, 95% confidence interval 1.5–7.7, P = 0.002) and anxiety (OR 2.9, CI 1.3–6.7, P = 0.005). There was a non-significant relation between somatization and anxiety (OR 1.8, CI 0.8–4.1, P = 0.066). The picture was more complicated than the crude odds ratios suggest, however (see Figure 1). Sixteen patients had all three problems (somatization and depression and anxiety) against an expected number of 7.1 (null hypothesis of no interrelations: 51/106 × 39/106 × 40 = 7.1). Patients with two of the three problems were comparatively few. In other words, the relations bet-
ween somatization, depression and anxiety were largely due to the patients with a triple problem. This finding is quantified in the stratum-specific odds ratios shown in Figure 1. Odds ratios depicted within a circle (that is, for patients with that problem) were consistently higher than those outside (for patients without it). In fact, only a probable somatization-depression relation remained after exclusion of anxious patients. The 16 triple-problem patients present the general practitioner with specific diagnostic and management problems. Did they differ in youth experiences as well? In further analyses we compared results for 'triple problem' (the 16 patients with somatization, depression and anxiety) with the 90 with two problems or fewer. For symmetry, we also compared results for 'any problem' (the 76 patients with at least one problem) with the 30 without any.

**Influence of gender**

There was a slight tendency for women to have a higher risk of anxiety (OR 1.8, CI 0.8–4.2, *P* = 0.153, two-sided) and possibly of somatization (OR 1.3, CI 0.6–3.0, *P* = 0.491, two-sided). Twelve of the 16 patients with 'triple problem' were women (OR 2.1, CI 0.6–7.0, *P* = 0.222, two-sided). Women scored lower on 'subjective illness self' (*P* = 0.027, two-sided). Crude analyses of the relationships between youth experiences and psychiatric problems yielded results similar to those stratified for gender. Men did not differ appreciably from women in these relationships. For simplicity we present here results stratified for gender only. Other sociodemographic variables were not significantly related to psychiatric problems or youth experiences.

**Illness experiences**

Frequency of serious disease (before age 19) was related to depression (see Table 1). A relation with somatization or anxiety was not found. Confrontation with

As far as youth experiences could be expressed on ordinal scales, relations with psychiatric problems are presented in this table. Numbers of patients with somatization, depression etc. are given on top, some indication of the frequency distributions of the independent variables (number of patients scoring 1 or higher) in the left column. Strength of relations is indicated with the significance value of the Mantel-Haenszel Chi^2^ test for trend, stratified for gender.

**TABLE 1 Troubled youth (ordinal variables) in relation to psychiatric problems (N = 106)**

<table>
<thead>
<tr>
<th>Illness experiences</th>
<th>Patients exposed <em>n</em> = 51</th>
<th>Somatization <em>n</em> = 51</th>
<th>Depression <em>n</em> = 39</th>
<th>Anxiety <em>n</em> = 40</th>
<th>Any problem <em>n</em> = 76</th>
<th>Triple problem <em>n</em> = 16</th>
</tr>
</thead>
<tbody>
<tr>
<td>(subj) illness self</td>
<td>43</td>
<td>41</td>
<td>0.248</td>
<td>0.478</td>
<td>0.707</td>
<td>0.389</td>
</tr>
<tr>
<td>(obj) disease self</td>
<td>63</td>
<td>59</td>
<td>0.263</td>
<td>0.021*</td>
<td>0.863</td>
<td>0.191</td>
</tr>
<tr>
<td>(obj) disease family</td>
<td>49</td>
<td>46</td>
<td>0.171</td>
<td>0.664</td>
<td>0.919</td>
<td>0.435</td>
</tr>
<tr>
<td>Deprivation*</td>
<td>65</td>
<td>61</td>
<td>0.000***</td>
<td>0.013*</td>
<td>0.026*</td>
<td>0.007**</td>
</tr>
<tr>
<td>early deprivation*</td>
<td>32</td>
<td>30</td>
<td>0.000***</td>
<td>0.217</td>
<td>0.011*</td>
<td>0.025*</td>
</tr>
<tr>
<td>Life events</td>
<td>82</td>
<td>77</td>
<td>0.003**</td>
<td>0.000***</td>
<td>0.551</td>
<td>0.003**</td>
</tr>
<tr>
<td>early life events*</td>
<td>63</td>
<td>59</td>
<td>0.017*</td>
<td>0.008**</td>
<td>0.753</td>
<td>0.032*</td>
</tr>
<tr>
<td>Other life events*</td>
<td>45</td>
<td>42</td>
<td>0.006**</td>
<td>0.001*</td>
<td>0.336</td>
<td>0.003**</td>
</tr>
<tr>
<td>early other events*</td>
<td>23</td>
<td>22</td>
<td>0.005**</td>
<td>0.025*</td>
<td>0.037*</td>
<td>0.003**</td>
</tr>
<tr>
<td>Sexual abuse (women)*</td>
<td>16</td>
<td>25 (1 miss)</td>
<td>0.165</td>
<td>0.146</td>
<td>0.105</td>
<td>0.149</td>
</tr>
<tr>
<td>early sexual abuse*</td>
<td>9</td>
<td>14 (1 miss)</td>
<td>0.057*</td>
<td>0.027*</td>
<td>0.445</td>
<td>0.249</td>
</tr>
</tbody>
</table>

As far as youth experiences could be expressed on ordinal scales, relations with psychiatric problems are presented in this table. Numbers of patients with somatization, depression etc. are given on top, some indication of the frequency distributions of the independent variables (number of patients scoring 1 or higher) in the left column. Strength of relations is indicated with the significance value of the Mantel-Haenszel Chi^2^ test for trend, stratified for gender.

Significant and near-significant relations are marked: *P* < 0.10, *P* < 0.05, **P* < 0.01, ***P* < 0.001.

* See also Figure 2; *b* Up to and including age 12; *c* See also Figure 3; *d* Analysis restricted to women, as only two men reported sexual abuse. One woman declined to answer this question.
Troubled youth and psychiatric problems

serious disease in parents or siblings was not related with any of the dependent variables, nor was subjective illness.

Deprivation
Deprivation was strongly related to somatization and related to depression and anxiety as well (see Table 1, Figure 2). If the analysis was restricted to deprivation before age 13, relations with somatization and anxiety did not change, but the relation with depression disappeared. As might be expected from the above, deprivation was related to 'any problem'. It was also related to 'triple problem'.

Loss of a parent (also included in the deprivation scale) was related to somatization and depression, but not to anxiety (see Table 2).

Life events
The number of life events in youth was related to depression (particularly strongly), to somatization and thereby

![Figure 2](image-url) In this figure the proportion of patients with somatization, depression etc. is given as a function of deprivation. As an aid to interpretation, the frequency distribution of deprivation is given too (horizontal axis, italic type).

<table>
<thead>
<tr>
<th>Problem</th>
<th>Abuse/loss</th>
<th>Age ≤ 18</th>
<th>Age ≤ 12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (CI)</td>
<td>significance</td>
<td>OR (CI)</td>
</tr>
<tr>
<td>Somatization</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51 (48%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sexual (women)</td>
<td>2.8 (0.7-12)</td>
<td>0.076*</td>
<td>6.4 (0.7-57)</td>
</tr>
<tr>
<td>physical</td>
<td>(always age ≤ 12)</td>
<td></td>
<td>1.7 (0.6-5.4)</td>
</tr>
<tr>
<td>sexual and/or physical loss</td>
<td>2.0 (0.8-5.6)</td>
<td>0.094*</td>
<td>2.0 (0.7-5.8)</td>
</tr>
<tr>
<td>physical</td>
<td>2.8 (1.0-8.6)</td>
<td>0.027*</td>
<td>4.5 (0.8-35)</td>
</tr>
<tr>
<td>Depression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39 (37%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sexual (women)</td>
<td>2.4 (0.6-9.0)</td>
<td>0.164*</td>
<td>5.3 (0.9-30)</td>
</tr>
<tr>
<td>physical</td>
<td>2.8 (1.1-7.7)</td>
<td>0.021*</td>
<td>4.1 (1.4-12)</td>
</tr>
<tr>
<td>sexual and/or physical loss</td>
<td>2.6 (0.9-7.4)</td>
<td>0.059*</td>
<td>1.4 (0.3-6.8)</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40 (38%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sexual (women)</td>
<td>1.2 (0.3-4.4)</td>
<td>0.525*</td>
<td>1.0 (0.2-5.0)</td>
</tr>
<tr>
<td>physical</td>
<td>2.3 (0.8-6.2)</td>
<td>0.060*</td>
<td>2.5 (0.9-7.2)</td>
</tr>
<tr>
<td>sexual and/or physical loss</td>
<td>0.9 (0.3-2.5)</td>
<td>0.535</td>
<td>1.5 (0.3-7.5)</td>
</tr>
<tr>
<td>Any problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 (72%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sexual (women)</td>
<td>1.7 (0.3-13)</td>
<td>0.415*</td>
<td>2.2 (0.2-53)</td>
</tr>
<tr>
<td>physical</td>
<td>6.4 (1.4-44)</td>
<td>0.007***</td>
<td>&gt; &gt; 100</td>
</tr>
<tr>
<td>sexual and/or physical loss</td>
<td></td>
<td></td>
<td>11.3 (1.6-255)</td>
</tr>
<tr>
<td>Triple problem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 (15%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sexual (women)</td>
<td>1.8 (0.4-7.9)</td>
<td>0.359*</td>
<td>3.9 (0.7-21)</td>
</tr>
<tr>
<td>physical</td>
<td>2.5 (0.7-8.9)</td>
<td>0.087*</td>
<td>2.9 (0.7-12)</td>
</tr>
<tr>
<td>sexual and/or physical loss</td>
<td></td>
<td></td>
<td>3.4 (0.9-12)</td>
</tr>
</tbody>
</table>

Relations of dichotomous youth experience variables with psychiatric problems are presented here as odds ratios, 95% confidence intervals and significance values (suitable for each problem). Prevalences of psychiatric problems are given in the left-hand column, frequencies of abuse and loss are in a separate subtable below. Results are stratified for gender (except sexual abuse, as this was rarely reported by men). Significant and near-significant relations are marked: * P < 0.10, ** P < 0.05, *** P < 0.01.

* Fisher exact test (one-sided).
to 'any problem' as well (see Table 1). Removal of overlapping items ('other life events') did not influence results appreciably (see also Figure 3). If the analysis was restricted to other events before age 13, a relation with anxiety was found too, while the relation with depression was somewhat weaker.

Abuse
Sixteen women (25%) and two men (5%) reported sexual abuse in youth (see Table 1). In at least half of the cases a family member or person in a comparable position was the perpetrator. In women, sexual abuse before age 13 was related to depression, and showed a tendency to be related to somatization and ‘triple problem’ too. To enable comparisons with physical abuse, a dichotomized version (discounting minor forms of abuse as advised by Draijer) is also presented (see Table 2).²

Physical abuse was more evenly distributed over the genders (10 men = 25%, 9 women = 14%) and had always started before age 13. It was related to depression, to anxiety, and strongly related to 'any problem'. Among women, there were suggestions of a relation to sexual abuse (OR 2.8, CI 0.6–13.6, Fisher exact: \( P = 0.191 \)).

The influence of abuse in general (physical abuse for men, physical and/or serious sexual abuse for women) was especially strong if it had started before age 13: early abuse was strongly related to depression and 'any problem'. Relations with anxiety and 'triple problem' were found too.

Multivariable analyses
Logistic regression analysis was used to assess the independent contribution of specific youth experiences to the prediction of psychiatric problems. These analyses could not establish whether the experiences we assessed are important in their own right; they might be more or less coincidental indications of a more general risk factor 'troubled youth'. As a check, we therefore combined several youth experiences in a 'trouble' scale, and then tested whether the component variables predicted better than this trouble scale.

Deprivation, other life events and abuse (sexual and/or physical) were clearly related to each other (Spearman rank correlation: deprivation–other events 0.23, deprivation–abuse 0.45, other events–abuse 0.26, all significant at \( P < 0.01 \)). Illness, disease (self) and disease (others) could not be combined with these variables (correlations lower than 0.10), nor did they form a scale on their own (correlations 0.10 to 0.20). So deprivation, other events and abuse were combined in the ‘trouble’ scale (alpha = 0.53).

Deprivation was the only significant predictor of somatization (see Table 3). Predictive power of this model was relatively low, indicating that other circumstances (not included in this study) must be important too. In this model gender was not a predictor, nor have interactions with gender been observed. The single variable deprivation predicted better than the ‘trouble’ scale it was part of, with the difference approaching significance. Deprivation also was a much stronger predictor than other life events; deprivation improved prediction significantly in a model containing other events, whereas other events did not improve prediction in a model containing deprivation.

Depression was best predicted by a model containing other life events and disease. Predictive power was low, however. Substituting trouble for other events improved the model slightly but not significantly. Here other events was a stronger predictor than deprivation, improving prediction significantly in a model containing deprivation and disease, while deprivation did not improve prediction in a model containing other events and disease.

The best model for anxiety contained only deprivation, and it was a weak one. Adding gender (probably related to anxiety in bivariate analysis) to the model made little change. Trouble was not a significant predictor.

The stepwise analysis for 'any problem' resulted in a model with abuse and other life events. This model was much stronger than the models for specific problems. With abuse and other events already included, deprivation did not improve prediction significantly. This model could be simplified; a model with only the trouble scale predicted as well as the two- or three-variable ones.

Deprivation was the only predictor of 'triple problem'. The model appeared to predict very well, but this should be interpreted cautiously because of small numbers. Controlling for gender did not change the model significantly. 'Trouble' was a much weaker predictor than deprivation.
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TABLE 3  
Independent contribution of youth experiences to prediction of psychiatric problems (N = 102)

<table>
<thead>
<tr>
<th>Psychiatric problem</th>
<th>Youth experience</th>
<th>Chi²</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td>deprivation</td>
<td>12.8</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>predictive power</td>
<td>128.6</td>
<td>0.029</td>
</tr>
<tr>
<td>or:</td>
<td>trouble</td>
<td>9.3</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>deprivation (given other events)</td>
<td>8.5</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>other events (given deprivation)</td>
<td>1.4</td>
<td>0.230</td>
</tr>
<tr>
<td>Depression</td>
<td>other events</td>
<td>9.7</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>disease (given other events)</td>
<td>3.0</td>
<td>0.083</td>
</tr>
<tr>
<td></td>
<td>other events and disease</td>
<td>12.7</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>predictive power</td>
<td>122.0</td>
<td>0.058</td>
</tr>
<tr>
<td>or:</td>
<td>trouble</td>
<td>11.2</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>disease (given trouble)</td>
<td>2.7</td>
<td>0.103</td>
</tr>
<tr>
<td></td>
<td>trouble and disease</td>
<td>13.9</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>other events (given depriv. and disease)</td>
<td>5.4</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td>deprivation (given other ev. and disease)</td>
<td>1.1</td>
<td>0.289</td>
</tr>
<tr>
<td>Anxiety</td>
<td>deprivation</td>
<td>4.0</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td>predictive power</td>
<td>130.7</td>
<td>0.021</td>
</tr>
<tr>
<td>or:</td>
<td>trouble</td>
<td>2.2</td>
<td>0.135</td>
</tr>
<tr>
<td></td>
<td>gender</td>
<td>1.5</td>
<td>0.220</td>
</tr>
<tr>
<td></td>
<td>deprivation (given gender)</td>
<td>4.4</td>
<td>0.037</td>
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<tr>
<td>Any problem</td>
<td>abuse</td>
<td>8.8</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>other events (given abuse)</td>
<td>6.9</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>abuse and other events</td>
<td>15.7</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>predictive power</td>
<td>104.2</td>
<td>0.341</td>
</tr>
<tr>
<td>or:</td>
<td>trouble</td>
<td>17.1</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>predictive power</td>
<td>102.8</td>
<td>0.403</td>
</tr>
<tr>
<td></td>
<td>deprivation (given abuse and other events)</td>
<td>1.9</td>
<td>0.170</td>
</tr>
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<td></td>
<td>predictive power</td>
<td>102.3</td>
<td>0.363</td>
</tr>
<tr>
<td>Triple problem</td>
<td>deprivation</td>
<td>6.9</td>
<td>0.009</td>
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<td>0.908</td>
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<td>or:</td>
<td>trouble</td>
<td>3.8</td>
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<td></td>
<td>gender</td>
<td>1.7</td>
<td>0.193</td>
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<td>deprivation (given gender)</td>
<td>7.6</td>
<td>0.006</td>
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<tr>
<td></td>
<td>predictive power</td>
<td>97.3</td>
<td>0.928</td>
</tr>
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</table>

Main results of logistic regression analyses are presented in this table. For each psychiatric problem, results of forward stepwise analyses are given above, additional analyses (trouble scale, variables forced in the model) below. For each model, the improvement Chi² (difference in $-2 \log$ likelihood of the model with and the one without the independent variable(s) specified) and its significance value are given. The final model is printed in bold type, with its predictive power ($-2 \log$ likelihood, significance value) in italic type below (a significant value here means a weakly predicting model). As the number of patients was 102 in all analyses, degrees of freedom can be deducted from the models themselves. Regression coefficients were not essential for our goal and have been omitted. Significance values in this table are two-sided.

Discussion

Our findings confirm that common psychiatric problems are related to troubled youth. This holds for somatization and depression, and to a lesser extent for anxiety. Together these problems account for most psychiatric problems in the general population, and consequently of general practitioners' workloads. The population studied is an important risk group well known to the general practitioner: frequent attenders with unexplained somatic complaints. The results of this study indicate which patients might benefit from the active attention of the general practitioner. While the general practitioner's opportunities for prevention of a troubled youth may be few, he can offer extra support or guidance to a patient he knows is vulnerable because of it. Troubled childhood and adolescence may also be an explanation for somatization, depression or anxiety that patient and general practitioner can agree upon. This alone may help the patient by easing feelings of guilt or doubt.
Finding relations between troubled youth and later psychiatric problems is not surprising. What is new is that we found them using a survey design in a fairly small study group that was neither specifically selected on troubled youth, nor on psychiatric problems. Studies on prognosis of severely troubled (for example institutionalized) children are hardly applicable to a general practice population. The same goes for case control studies in institutional care populations, that besides may suffer from selection bias.

Methodological considerations
Negative results in this study have little value as evidence, because of the relatively small number of patients included (see confidence intervals in Table 2). On the other hand this guards against conclusions about relations that are statistically significant, but too weak to be theoretically meaningful.

Data on youth experiences were gathered retrospectively, with an inherent risk of information bias; psychiatric problems might make one reconstruct one’s memories in search of meaning. To a certain extent, this was circumvented by asking for discrete, easy-to-remember situations or events (see appendix). Our survey design and study population make serious bias unlikely anyhow; inclusion criteria were the same for all patients, and few had a history of chronic psychiatric disability or long-term care.

Our study addresses patients that have increased risk of becoming chronically disabled, losing their job and social contacts as a result. To some extent our findings can also be extrapolated to the general practitioner’s waiting room population, as this kind of patient is over-represented there. They cannot be extrapolated to the general population.

Relations between somatization, depression and anxiety
Prevalence of somatization in the general population is estimated to be about 5%, of (lifetime) depression about 8%.\textsuperscript{29,34} If we lump anxiety disorders together, estimated prevalence is about 15%.\textsuperscript{34–36} Prevalences in this study were much higher, as a result of our inclusion criteria. The inclusion criteria, however, do not explain the high frequency of ‘triple problem’ (somatization and depression and anxiety) compared to frequencies of two of the three. Orenstein found this pattern of relations for somatization disorder patients.\textsuperscript{37} He hypothesized a diathesis for ‘comorbidity’ in some patients to explain this. Results of a large-scale study in the general population are consistent with this explanation.\textsuperscript{36} For a description of our results, concepts like ‘somatic anxiety’ or ‘anxious depression’ are unnecessary; they might be dropped in favour of a term emphasizing the multiple and diverse symptoms of patients with a combination of somatization, depression and anxiety. We suspect that many difficult patients in general practice belong to this group, as they have two problems that may interfere with the treatment strategy for the third. In their youth experiences, though, these patients are hardly distinguishable from the other patients; deprivation is the most important predictor. The concept of ‘somatized’ or ‘masked’ depression is, tentatively, validated in our results. It applies to a small group of patients, however.

Influence of illness experiences
Our results do not prove that confrontation with illness or disease in youth is unrelated to later somatization. They do suggest that other factors are more important in a general practice population. The discrepancy with the literature (for somatization disorder stronger relations were found) is probably a result of a difference in threshold.\textsuperscript{42} Disease (and confrontation with disease or illness behaviour in parents or siblings) might be an all-or-nothing risk factor, either causing serious somatization in youth that progresses into somatization disorder, or not having much influence in the long run. This explanation implies a qualitative difference between somatization disorder and our more comprehensive definition of somatization. However, the literature has suggested differences in degree, not kind.\textsuperscript{3,29} Relations with illness experiences found can also be explained as early symptoms of, rather than causal factors for somatization disorder.

In our population, disease in youth seems to be more important as a life event (see below) than because of its health-related connotations.

Influence of deprivation
Bowlby’s attachment theory, often the implicit theoretical foundation of many studies on deprivation, emphasizes the quality and continuity of care: who the primary caregiver is, is irrelevant.\textsuperscript{1} In many studies, though, deprivation was operationalized narrowly as loss of a parent, with somewhat conflicting results.\textsuperscript{8–10} Our broader operationalization was an independent risk factor for both somatization and anxiety. This strengthens Katon’s hypothesis of somatization as a learned response: a child learning by differential reinforcement ‘how to elicit nurturance from a caregiver: complaining about a headache rather than about being sad’ and learning to attribute symptoms to somatic causes.\textsuperscript{7} In this view, other circumstances (life events) might lead to later problems, too, but not to this translation of primarily psychosocial needs into somatic symptoms.

Influence of life events
With life events related to illness experiences, deprivation or abuse excluded, what remains is the frequency of disruptive changes, like moving house frequently. These other events are the primary risk factor for later depression. Specificity of deprivation–somatization and other events–depression relations suggests distinct causal mechanisms: other life events and disease generally are
unexpected, unavoidable and impossible to cope with actively; their influence is relatively short-lived. Apparently they predispose to a passive/depressive coping style, and thereby to later depression. In many deprived situations, on the other hand, the child can understand why things happen (or at least think he does) and do something. This interpretation is supported by the finding that helplessness and perceived vulnerability to loss following loss of a parent have been shown to predict later depression better than the loss itself.28,29

Influence of abuse
A lower prevalence of sexual abuse was found than we expected on the basis of the literature.2,18 Sexual abuse may have been underreported; patients frequently disclose abuse gradually after experiencing that the interviewer believes them and reacts with empathy.2 In this study women could not deny abuse and come back to the topic later. This explanation is supported by the low prevalence of sexual abuse reported in a study with a comparable procedure.40 As a result, we may have underestimated relations between sexual abuse and psychiatric problems. The general practitioner does have the opportunity to use a question about sexual abuse as an invitation to return to the topic when and if the patient wishes. Our experiences with the patients have convinced us that he should do so. Some of the women in this study indicated that we were the first people they had ever told about it. Some thanked us for causing them to rethink past events and the way they lived with them now.

Physical abuse may be less of a taboo; distinguishing it from the well-deserved spanking most of us have had is, however, difficult. Our operationalization led us to find a fairly high prevalence (in men) and a doubled risk of depression and anxiety. Physical abuse is probably as important as sexual abuse.

The effect of abuse is clearer if serious sexual abuse and physical abuse are combined: a general practitioner may expect that among his frequent attenders, every fourth patient, man or woman, has been abused before age 13. Abuse in these patients doubles the risk of depression, and increases that of anxiety as well.

Influence of trouble in general
Deprivation, other life events and abuse: are they causes of later psychiatric problems? Or are they more or less coincidental manifestations of an underlying cause or causes? The question is important: if they are manifestations, not causes themselves, preventive efforts aimed at them may be useless. The data available cannot give an answer directly, but the specificity of the deprivation-somatization and other events-depression relations found provides a clue. If not causes themselves, deprivation and other events are at least manifestations of separate causes. Our comparison of specific youth experiences with the overall trouble scale was based on the same reasoning; the more specific a relation, the less likely an interpretation was to be as the result of some confounder not measured in this study. These comparisons supported a causal interpretation. Combining deprivation with other events and abuse did not improve prediction of somatization beyond deprivation alone; it probably worsened it. For 'triple problem' we found the same. Differences were small for depression and anxiety, which implies a choice for the specific model; the broad trouble scale was not a (significantly) better predictor than deprivation and other events, respectively. Besides, a specific relation of other events with depression was not to be expected: deprivation and abuse contained events too.

Recommendations
The key findings of this study, such as the high number of patients with a triple problem and the specificity of the deprivation-somatization and other life events-depression relations, had not been hypothesized beforehand. A replication study would therefore be valuable, with different inclusion criteria (patients with tiredness, for instance) and ideally in a population more resembling the general population.

Too little is known about therapeutic possibilities for patients with a troubled youth for experiments to be designed. Some insight could be gained with a study on general practitioners' working style and knowledge about their patients' youth experiences in relation to outcome in these patients.

Troubled childhood and adolescence is probably disclosed gradually by the patient more often than diagnosed through specific questioning by the general practitioner. Empathy and preventing hurried surgery hours are therefore as important as diagnostic acumen. The general practitioner may prefer not to record sensitive information like indications of trouble in youth. The lasting effects of trouble are a strong argument for careful recording, if only for the general practitioner's successor.

Acknowledgements
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Appendix: Youth experiences questionnaire

Introduction: I now want to ask you some questions about your youth, and about the family you grew up in. All questions concern events or situations before your 19th birthday.

**Illness of the patient**
- Did you have more frequent illnesses than your classmates or colleagues? yes/no
- Did you sometimes feel ill (or pretend to feel ill) just before a test at school, and stay at home? yes/no
- Did you ever have to repeat a class because of frequent illness? yes/no
- Did you often see the general practitioner in primary school years? if more than seldom

**Disease of the patient**
- Did you ever have episodes of serious disease?* 0, 1, ≥2 times
- Were you ever admitted to hospital?* 0, 1, ≥2 times

**Disease of family members**
- Were your parents always in good health?* 0, 1, 2 parents
- Were your sisters, brothers (other household members) always in good health?* 0, 1, ≥2 members

**Deprivation**
- Have you ever lived in a foster home, boarding school or institution?** yes/no
- Did your father or mother die? 0, 1, 2 parents
- Were your parents divorced? yes/no
- Did your father or mother ever have a nervous breakdown? 0, 1, 2 parents
- Did you have heavy duties to perform in the family? (if necessary the interviewer elucidates: Did you do work or have responsibilities that would not have been asked of other children of the same age?)*
- Did your mother or father involve you with their own problems?*** yes/no

**Other life events**
- Did a sister or brother die? yes/no
- Did you move house frequently? (other neighbourhood, after age four) count
- Were you ever cared for outside your own family for a period of three or more months before age six? yes/no
- Did you experience other very major life events before your 19th birthday? count

**Abuse**
Introduction: I now want to ask a few questions about subjects that are difficult to discuss for many persons: traumatic experiences you may have had in your youth. For our study these are important questions. If, however, you find it difficult to answer these questions, I’d rather you kept silent than be upset about it afterwards.

**Physical abuse**
- Were you ever beaten in your youth?
  a. Did you feel threatened then?
  b. Did you ever see a doctor or social worker in connection with beatings or punishment?
  c. What did these beatings mean for you then? (positive if a or b positive, and c indicates gravity) yes/no

**Sexual abuse**
- Did you as a child (before your 15th birthday) ever have sexual experiences that you did not want?
  a. Would you tell me what happened then?
  b-j: age, person involved, frequency, threats, feeling threatened, violence, meaning for the patient, support then, support later.
  (scoring following Draijer) 0 – 4
- Have you ever been sexually assaulted since your 15th birthday?
  a-i: follow-up questions comparable to previous a-j.
  (scoring following Draijer) 0 – 4

* Answers written down, later coded according to the ICPC, positive if diagnosis of serious (life threatening, disabling or chronic) disease.
** Having lived in a boarding school in the Netherlands indicates family problems more often than good education.
*** Answers discussed by the interviewer to ascertain that it really concerned a serious burden in relation to the age of the patient.